DELAWARE LEHIGH AMATEUR RADIO CLUB Inc.

JUNE 2018

W3OK CORRAL

Club Meeting June 7th, 7:30PM At the Bethlehem Township Community Center

JUNE MEETING PROGRAM

"EME For the Small Station"
Skip / W1PV and Howard / AE3T

MAY MEETING PROGRAM

"Planning & Designing 911 Operations Systems"

Tom / N2TDZ

MINUTES FROM THE MAY MEETING

A General Meeting of the Delaware-Lehigh Amateur Radio Club was held on May 3, 2018 at the Bethlehem Township Community Center, Bethlehem, PA.

President, Steve Harper, W3NAM, called the meeting to order at 7:32 p.m.

President's Report:

a. Although they cashed our check in November 2017, the Nittany Amateur Radio Club gave away the Mobile Award, which we have sponsored for many years. They have offer us several other awards instead. Steve asked the membership if they would prefer to cancel our participation or pick another award. Pete Varounis, NL7XM, made a Motion that the Club sponsor the Most Rover Counties Award. It was seconded, and passed.
b. Steve announced that the Board is looking into setting up a PayPal account
c. The Board is in the process of preparing an Annual Budget, which when finalized, will be presented to the membership
d. It was decided that to insure that only members-in-good-standing vote in the Annual elections, the Membership Committee Chair will provide the Elections Chair with a roster of voting members.

Members Announcements:

Bob Green, KE3AW, recapped DLARC's participation in the East Hills Middle School Science Fun Night. There seemed to be more student participation than last year, and our demonstrations attracted far more student interest as well. Seven DLARC members participated, including Al Wiemann, W3CE, and Dave Blankenship, N3EYT, who worked the keyer, and Dean Guth, AB3BD, who brought his FlexRadio Maestro. Noise was our biggest problem.

Dennis Rice, N3SXI, participated in the April 2018 Frequency Measuring Test and his results placed him in the "Green Box," with an accuracy of better than 1 Hz.

Dave Blankenship, N3EYT, and Maurice Heller, KC3AVX, participated in the Nazareth Area Science Fest at the Kenneth Butz, Jr. Elementary school. It was a small event, but children were also interested in the CW demonstration.

Dennis, N3SXI, said that after having a heart attack earlier this year, Chris Hornaman was diagnosed with a hole in his heart. He will have surgery to repair the hole on May 9. A get-well card was available for members to sign

Secretary's Report: JoAnn Schaffer, ND3JJ, announced that the Minutes for the April 2018 General Meeting were emailed to the membership on April 23, 2018. There was one clarification under Member Announcements. Pete Madsen, K2PM, came in third in the ARRL DX contest for high power 160 meters SSB. A motion to accept the Minutes was made by Mark Bond, W2MB, seconded, and so moved.

Treasurer's Report: Mike Gower, KB3LOD, gave his report. A motion to accept the Treasurer's Report was made by Jay Mason, N3OW, seconded, and so moved.

Committee Reports:

Membership: A motion was made by Mark Bond to accept the membership application of Lee Walmach, KC3LDZ, who participated in the Tech licensing classes but qualified for a General license. The motion was seconded, and so moved.

The By-Laws Committee, led by Pete Varounis, has met three times. No date has been set for submitting their recommendations to the Board.

Field Day and Annual Picnic Committee: JoAnn Schaffer, ND3JJ, will take care of food, and Ed Pitoski, AA3OU, will handle beverages. Evelyn Uhler, W3DOY will assist.

There being no further Unfinished or New Business, the meeting was adjourned at 7:57 p.m.

Minutes submitted by Secretary, JoAnn Schaffer, ND3JJ

VE TEST SESSION

There will not be a test session this month. The next session will be July 6th, at 7 PM at the Northampton County 911 center. Pretest registration is required. Contact John / NT3P at nt3p@arrl.net

NEW MEMBER

The DLARC is continuing to grow, so be sure to greet our new member, shake his hand, and give him a warm welcome to our club. The newest member is Lee Walmach / KC3LDZ

JUNE CONTESTING AT THE OK CORRAL

June 2 & 3 – DidiFest
– Dutch Kingdom Contest
June 9 & 10 – Asia-Pacific Sprint
– ARRL June UHF Contest
June 16 & 17 – EU PSK DX Contest
– Feld Hell Sprint
June 23 & 24 – ARRL Field Day

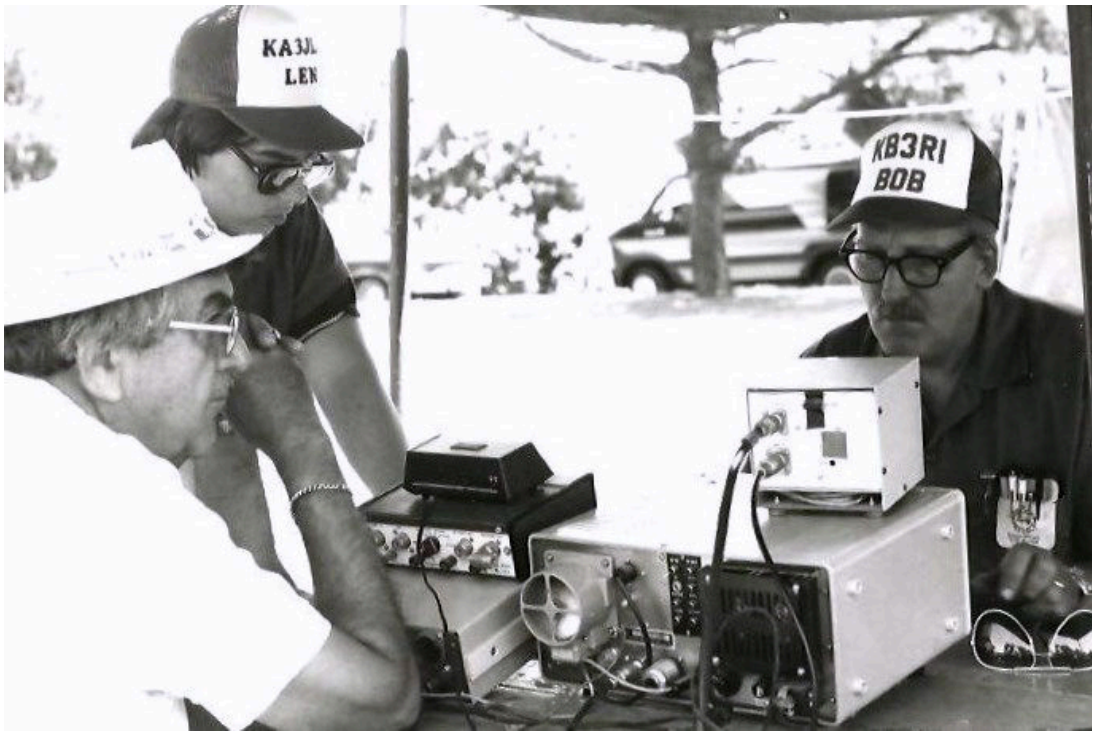
JUNE QUICK CHECK CALENDAR

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
					1	2
3	4	5	6 DLARC Net (KC3II)	7 DLARC Meeting 7:30 PM	8 NO VE SESSION	9
10	11	12	13 DLARC Net (N3SQD)	14	15	16
17 Father's Day	18	19 DLARC BOARD MEETING	20 DLARC Net (KB3CTX)	21 First Day of Summer	22	23
24	25	26	27 DLARC Net (K3PDL)	28	29	30

WEDNESDAY EVENING DINNER CLUB

Don't forget the Wednesday Evening Dinner Club. Club members get together for dinner prior to heading up to the "Milkhouse" for the weekly gathering. Listen to the Wednesday Net for the following weeks location. Each week is a different location. Also it is posted on the club FORUM. A fun get together!.

REFLECTIONS FROM THE PAST



Field Day 1983, Hackett's Park, Easton Pa.

MAY PROGRAM REPORT

“Planning and Designing 911 Operating Systems”
Tom / N2TDZ

Tom's presentation tells how the Morris County, New Jersey, 911 system made a complete turn-around with its communications following 9/11. Due to its proximity to New York City and how they had to supply communications to New York City as a result of the planes crashing into the World Trade Center.

Morris County realized at that point that their system was unable to handle any similar attacks, so they set out correct and improve their system.

They built a bombproof 911 building to house their communication center and equipped it with the latest radio and communications systems. The system would allow inter-communications between all the various departments in the county. Because of this they were required to change all official vehicle radios and departmental base stations in the County.

All this could be controlled from the 911 center and also various base station and mobile communications centers. This control made it possible for the 911 center to be able to have direct contact with the various departments on the ground at at any location and at any time during an incident.

This did not come without a very high cost, but the various government agencies made all this possible. Tom also noted that the various EMA groups in the Lehigh Valley were also undertaking a similar operational changes. This will enable all the municipalities in the Lehigh Valley, even though there are two counties covered to able to work together in an emergency.

Tom finished with the usual question-and-answer period.

MONTHLY BRAIN TEASER

"A special prize awaits the first Club Member to submit the correct answer to this month's Brainteaser to the Pete / NL7XM, *only,* at nl7xm@arrl.net The winner must be present at the next Meeting to receive it, or it goes unrewarded. Officers, Board members, Newsletter staff, and Brain Teaser Authors are not eligible to win."

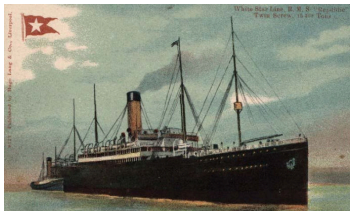
de Pete / NL7XM

MAY BRAINTEASER ANSWER
SILENCE

The Winner – Bob / KE3AW

JUNE BRAIN TEASER

Turn me on my side , and I am everything. Cut me in half and I am nothing.
What am I?



THE SINKING OF THE RMS REPUBLIC
Bill Connelly / W3MJ
Part 2

The Jack Binns of the Marconi Wireless Co, Story as told to Alfred M. Caddell and Broadcasted in April, 1924 on a New York radio station

Awakened by the sudden change of fog signals, Binns sat up right on the edge of his book,and listened, one second, 2 seconds, three --- (the Fog signals have been used to signal ships to steer to the port side to avoid impact, it was a common occurrence to signal the Captains by fog horns.) There was a terrific crashing. Rushing from his bunk into the operating room which was situated on the Aft-Port side, he peered out through the darkness. Crumbled up like a bellows of a concertina, the lower part of the colliding ships bow hit the Republic full and square in her engine room compartment while the upper part, plowing its way through the cabins on the deck, hung over it, a menacing mountain of twisted steel. The roof of the wireless cabin collapsed; part of the cabin itself was wrenched away.

A strong current was running, swinging the colliding ship and the Republic around and twisting her davits stanchions and beams.. The telephone between the wireless cabin and the bridge was destroyed. At a glance --- it all happened at once, it seemed--- Binns took in the situation. He was standing between life and death. Unlike many others on the ship is intelligence was not numbed. He got into action.

Was his wireless set in order? With the antenna in intact?

The system used at the time enabled me to find out very quickly, “said Mr. Binns, when the writer (Alfred M. Cadell interviewed him in his office at the New York Tribune. I had transmitting apparatus consisting of a ten inch spark coil which was run from the ships lighting mains and could be used for either of the untuned sending at the natural period of the aerial or with a tuned circuit which was inductance and condenser of Leyden jars. On the other hand, my receiving equipment consisted of a magnetic detector with a Franklin tuner which was one of the new pieces of apparatus of that day. But, just from present standards, the tuner was very crude

We were transmitting with what is known as plain antenna, and unless the antenna was up and thoroughly insulated, it was impossible to get spark. I had just enough time to work the the key and find out that the antenna was still up when the lights went out. All machinery of the ship, including the generators, had been almost immediately put out of commission.

I had jumped to the key immediately --- I think that not more than three seconds had elapsed since the vessel had struck us. Although I had a vague idea what had happened, I didn't know the exact details. What I did know was enough. As the vessels were swung around by the current I saw my cabin being ripped away.

When the ships lightning current went off, I changed over to the storage batteries for transmission power. We carry these batteries as an emergency reserve. When we use these batteries to operate the sparkles, our range was limited to approximately 60 miles. It was dark and foggy. The air was biting cold. I put on as many clothes as I could find, bundled an overcoat around me, and it began sending out CQD, which was at that time a distress call.

There was little on the air at that time of night. We were, as I found out later, about 60 miles from the Siasconsett Station on Nantucket Island; just on the verge of communication with the shore that was all. It seems that Jack:Irwin, the man on watch at Siasconsett, had a very quiet night and had dozed off to sleep. As a result his fire had died down and presently he began to feel uncomfortably cold when he heard my call. He dropped the coal , jump over to his key and replied instantly. I told him we were in distress, that two vessels were in distress, that I did not know at that moment where we were, nor the extent of damage to either one of us, but told him I would get the information from the bridge as rapidly as possible, and asked him to keep everybody off the air until I received word from Captain Sealby, given the damage done by the collision and the position of the ship. When I conveyed this message to Siasconett, I would immediately send out the general distress call. The steamship Baltic of the White Star Line was the first to answer the call.

“During the time they were drifting. The captain had absolutely no control of the ship. We had found the vessel which struck us, and learned that it was the Italian ship Florida with immigrants bound for New York. She had not suffered as much as the Republic, and it was decided to put all our passengers and crew on board her. Her engines were undamaged and the ship was controllable. But transferring the passengers from the Republic was not an easy task, for the Florida was a very small ship and had nearly 2000 passengers on board, the majority of them being refugees from the earthquake at Messina, Italy. The captain of the Italian ship, was a young man by the name of Ruspini and the situation from his end with a surprising degree of coolness.

“About noon that day --- which was Saturday – the Baltic was within 10 miles of the Republic, I could tell by the strength of her signals, although at that time we had no means of knowing definitely how far away any particular station or ship was, and I had to rely on the sensitivitiness of my ears to arrive at that conclusion.

. “The fog had, if anything, grown worse than it was at four o'clock that morning --- and of course the Baltic had to reduce speed for fear of running into us before she could check her speed. From 12 o'clock until six in the afternoon I remained constantly at the key trying, in conjunction with the officers of both ships, to get the Baltic alongside. To accomplish this we exploded detonating bombs and fired rockets. When one ship exploded bombs, the officers or the other would try to learn approximately the direction from which the sound came. We were doing this all afternoon on both ships, but although we were in the proximal radius at 10 miles of each other, none of explosions have been heard.

“Six o'clock came and it was still foggy and dark. Presently we had to reduce the number of our bombs to where each of us only had one left. According to our soundings, they were aware that the Republic had been sinking steadily at a rate of about 1 foot per hour. Unlike the sound of the voice or other noises, wireless of course was not directional, and inasmuch as we had electrical means of determining the exact location of each other we might just as well have been 1000 miles apart“

At this point, we checked up, carefully with each other the time on our chronometers. The ship carries three chronometers, the mean average which was taken as the time. As soon as we had checked up on that it was decided that the Republic should fire her last bomb a certain precise second and they would listen very attentively to hear it. The second arrived, and boom! With the bomb. But it proved in vain --- they did not hear. It looked like a forlorn hope. The Republic was gradually sinking, they had come upon us, the Florida was floating somewhere in the neighborhood carefully crowded with 4000 passengers and a crew aboard the small ship. What were we to do?

“We made arrangements for the Baltic to explain her last bomb, then I went forward of the bridge by this time there were only eight on board the Republic. We had plenty of time, so seven of us formed ourselves in a circle with our faces outward while the quartermaster was to indicate to us by moving his arm upward exact second explosion was to take place. He raised his arm and --- we listened..

“An operator's sense of hearing undoubtedly becomes more acute than another person's because of his constant training in straining his heirs for faint code signals. Somehow or other, within about 5 seconds after the quartermaster had raised his arm, I heard a very tightly what I thought might be the sound of a bomb. I turned to the third officer who stood next to me and he said he thought he heard it to, although he wasn't exactly sure. It has been prearranged that none of us were to move in case we heard the sound, this in order to check the direction and get our bearings on the Baltic. Consequently, the officers took a bearing on the direction the sound came from, according to the third officers and my own sense of hearing, and then I went back to the operating cabin to transmit steering directions to the Baltic, based on those bearings. We cautioned them to come very slowly because of our helplessness.

“Had we really learned the Baltic's bomb? Where the steering directions I had just transmitted by to bring her

alongside? Those were tense moments.

“In about 15 minutes we heard the foghorn of the Baltic. The last bomb really had been hurt beyond all doubt.

“You are proceeding on the right course, was the message that I then sent to the Baltic area we can now hear your popcorn. Come very cautiously as we have no lights.

Continued next month

AMATEUR RADIO CASE ATTRACTS ATTENTION OF FCC COMMISSIONER

FCC Commissioner Michael O'Rielly has used the latest chapter of an Amateur Radio proceeding to reiterate his call that the Commission abolish its Administrative Law Judge (ALJ) system. The long-standing case involves efforts by William F. Crowell, W6WBJ (ex-N6AYJ), of Diamond Spring, California, to renew his license. Late last week, the FCC denied reconsideration of Crowell's petition to have the Commission assign a new ALJ to his case, arguing that the current ALJ, Richard L. Sippel, is biased against him. Attaching his own comments to a *Memorandum and Opinion Order* released on April 26, O'Rielly said he approved the Commission's opinion that Crowell's appeal was justifiably denied, but he expressed concern that the ALJ "took unnecessary actions" in Crowell's case and in another unrelated proceeding.

"On a larger scale, complaints about the ALJ process are not isolated incidents, but paint a picture of questionable decisions coupled with an elevated level of inefficiency," O'Rielly said in comments attached to the *MO&O*. "It seems to me that, too often, the Commission has had to reverse the decisions of the ALJ or address one ALJ decision or another. This reality only reaffirms my call to consider eliminating the ALJ process altogether."

It has been 10 years since the FCC set Crowell's license renewal application for hearing, and nearly as long since Crowell requested disqualification of the ALJ assigned to his case. Crowell's license renewal hearing centered on whether he had violated FCC Part 97 rules by intentionally interfering with and/or otherwise interrupting radio communications, transmitting one-way communications, indecent language, and music, and whether he is qualified to be and remain a Commission licensee and have his renewal application granted.

In 2016, the FCC imposed a $25,000 fine on Crowell for intentionally interfering with the transmissions of other radio amateurs and transmitting prohibited communications, including music. The penalty included "an upward adjustment reflecting Mr. Crowell's decision to continue his misconduct after being warned that his actions violated the Communications Act and the Commission's rules," the FCC said at the time.

"Mr. Crowell does not deny that he made the transmissions that prompted the fine, but argued, in large part, that those transmissions were protected by the First Amendment," the *Forfeiture Order* said.

The FCC concluded in this month's *MO&O,* "We have examined Crowell's claims of bias in accordance with our precedent, a task made more difficult because Crowell provides virtually no detailed factual support or references to the record for his allegations."

Crowell's license, which expired in 2007, has not been renewed, but Crowell may continue to operate while his renewal application is pending.

ARRL ASKS FCC TO PROTECT AMATEUR RADIO MILIMETER-WAVE BANDS

ARRL has asked the FCC to avoid authorizing developmental technologies in two Amateur Radio bands above 95 GHz that some radio amateurs may not be unaware of. The ARRL commented on May 2 in response to a Notice of Proposed Rule Making and Order (NPRM&O) in ET Docket 18-21, released in February. The so-called "Spectrum Horizons" proceeding seeks to make the bands above 95 GHz "more readily accessible for new innovative services and technologies."

ARRL said that, while it agrees that "regulatory flexibility is justified" in the millimeter-wave bands above 95 GHz, due to the extensive frequency re-use possibilities, the FCC ought to make two primary Amateur/Amateur Radio Satellite bands in that part of the spectrum unavailable for deployment of unlicensed Part 15 or Part 5 Experimental Spectrum Horizons devices. Amateur Radio has primary allocation status in the bands 134 - 136 GHz and 248 - 250 GHz, both shared with the Radio Astronomy Service, which is secondary.

"The amateur allocations require protection against increases in the noise floor due to aggregate radio frequency devices," ARRL said."The bands are used ubiquitously and unpredictably, typically, but not always, at high elevations for research and development purposes and propagation studies, for terrestrial point-to-point, satellite, and Earth-Moon-Earth communications experimentation."

ARRL said it would oppose "any proposal to permit unlicensed devices or largely unregulated experimental operations" in the two primary Amateur Radio allocations in the range of spectrum the FCC is considering. "It is critical to preserve for Amateur Radio experimentation the current relatively quiet noise floor, and the positive RF environment that now exists in those two relatively small band segments," ARRL told the FCC. The League's comments noted that the secondary Radio Astronomy Service in those two bands also requires a quiet RF environment.

In strongly urging that the FCC not permit unlicensed Part 15 in either primary amateur band "under any circumstances," ARRL pointed out that the FCC has no data concerning increases in the noise floor from potentially large numbers of unlicensed Part 15 devices in either band. Additionally, ARRL said, "There is no compelling need to include these two bands among those which might be made available for unlicensed devices and systems in this proceeding."

ARRL said it also would oppose the authorization of Spectrum Horizons experimental authorizations in the two primary Amateur/Amateur Satellite allocations, operating under a new subpart for Spectrum Horizons Experimental Radio Licenses" in the spectrum
at issue.

ARRL said it would be difficult for such applicants to make an accurate showing of non-interference in the two amateur allocations, "due to the variety and itinerant nature of Amateur Radio allocations."

If the FCC should nonetheless decide to permit Spectrum Horizons experimental authorization applicants to apply for 134 - 136 GHz and 248 - 250 GHz, however, ARRL said applicants should have to "demonstrate convincingly" that no other suitable allocations are available, and that they coordinate their operations with ARRL when filing an application.

The omnibus NPRM&O includes consideration of a Petition for Rule Making (RM-11795) from Missouri radio amateur James Whedbee, N0ECN.He asked the FCC to adopt rules to permit the operation of unlicensed devices in the 95 - 1000 GHz range, by and large applying the same technical rules to those unlicensed operations as currently
apply in the 57 - 71 GHz band.

"Overall, the Commission is on the right track in this proceeding," ARRL allowed. Opening the millimeter-wave bands to expanded unlicensed operation is not unreasonable. "Some, but not all, of the bands above 95 GHz can be removed from the Part 15 restricted band list in Section 15.205(a) of the Commission's rules without significant concern," ARRL concluded. "However, the Amateur Radio primary allocations at 134 - 136 GHz and 248 - 250 GHz, which are shared with radio astronomy, should be unavailable for either Part
15 operation or for other commercial development."

NEW 630-METER BAND REPORTED "VERY BUSY"

Amateur Radio got two new bands last year, and amateurs are beginning to use them. Ralph Wallio, W0RPK, of Greenville, North Carolina, and others who took part in ARRL's WD2XSH Part 5 Experimental operation or have a deep interest in what now is the 630-meter band (472 - 479 kHz), say activity is picking up.

Wallio maintains an informal database that tracks the activity of stations on a state-by-state basis, as well as how many states each station has worked. Topping the list is Eric Tichansky, ,NO3M in Pennsylvania, with 36 states worked on 630 meters, and 35 confirmed, including Hawaii and Alaska. NO3M, who also operates as W3CDX, reports eight DXCC entities worked on the new band.

"During the past 6 months, our list of stations in the US participating in QSOs on 630 meters has steadily increased to 108 stations across 39 states," Wallio told ARRL. "As of mid-April 20 2018, we have 6 months of operating experience over the past winter. Our 630-meter band has been very busy."

Wallio said modes frequently used for 630-meter contacts include CW, JT9, WSQ (weak-signal QSO), and FT8, with occasional additional digital mode experiments and SSB. Numerous US stations are also participating in WSPR beacon transmission, reception, and reporting on 472 kHz. "An analysis of the past 30 days finds 59 stations occasionally transmitting 630-meter WSPR beacons in the US," Wallio added.

Transatlantic and transpacific contacts on the new band also have been reported.
John Langridge, KB5NJD, posts a daily discussion of 630-meter operations and conditions. He advises stations operating on 630 meters to upload their logs to Logbook of The World, so 630-meter operators participating in the 2018 ARRL International Grid Chase (IGC) can receive credit.

Another WD2XSH participant, Rudy Severns, N6LF, discusses LF-MF Antenna design on his website, with notes, Archive of 600MRG discussions also is available.

RADIO AMATEURS IN CANADA TO GET NEW 100 WATT 5 MHZ ALLOCATION

Radio Amateurs in Canada are poised to join those in several other nations around the world who have access to a new 60-meter band, 5351.5 – 5366.5 kHz, as agreed upon at World Radiocommunication Conference 2015 (WRC-15), but with a maximum power of 100 watts effective radiated power (ERP). The updated Canadian Table of Frequency Allocations includes the new allocation, although radio amateurs have not yet been authorized to use it. This updated table can be found on the web at, http://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/sf10759.html

Canada's radio amateurs will also retain the four Amateur Radio channels that do not fall within the new allocation. These have been authorized under a footnote to the Table since 2014, permitting phone, data, and CW at a maximum occupied bandwidth of 2.8 kHz. The 60-meter allocation and spot frequencies are on a secondary, non-interference basis.

In January 2017, ARRL asked the FCC to allocate a new, secondary contiguous band at 5 MHz to the Amateur Service, while also retaining four of the current five 60-meter channels and current operating rules, including the 100 watt PEP ERP limit. The federal government is the primary user of the 5 MHz spectrum in the US. The FCC has yet to act on ARRL's petition.

Canada's regulatory agency, the Department of Innovation, Science and Economic Development Canada (ISED) last August proposed to adopt WRC-15 decisions that included the 15 kHz Amateur Radio allocation. The proposed revisions to the Table would retain the original five 5 MHz spot frequencies with a maximum of 100 watts ERP, but restrict the new 15 kHz allocation to just 15 watts EIRP, as agreed to at WRC-15, accommodating the concerns of a few countries over possible interference to their domestic communications.

"Radio Amateurs of Canada (RAC) noted in its response to the proposed changes that there had been no reports of interference from Amateur Radio operations on the existing five 60-meter spot frequencies following their use in Canada since 2014 and in the USA for even longer," RAC President Glenn MacDonell, VE3XRA, said. "Further, the rationale for allocating the spot frequencies had been based on the value of 60 meters for emergency communication, and the low power limit adopted at WRC-15 would seriously limit this use."

MacDonnell said comments from the Radio Advisory Board of Canada (of which RAC is a member organization), the Ottawa Valley Mobile Radio Club, the Marconi Radio Club of Newfoundland, and several individual radio amateurs also recommended 100 watts.

"The new allocation will be more effective and manageable for domestic SSB communications, and consistent with the existing use of the band on the five spot frequencies now enjoyed by Canadian amateurs," MacDonnell said.

ISED typically authorizes the use of new allocations via a revised document RBR-4 - Standards for the Operation of Radio Stations in the Amateur Radio Service. "Radio Amateurs of Canada will be urging ISED to authorize the new 15 kHz segment as soon as possible,"
MacDonell said.

FCC RELEASES NOTICE OF PROPOSED RULEMAKING ON SMALL SATELITES

The FCC released a *Notice of Proposed Rulemaking* (*NPRM*) on April 17, seeking comment on proposals to streamline its rules regarding the deployment of “small satellites.” This would include small spacecraft put into orbit for Amateur Radio purposes, as well as small satellites launched by non-Amateur Radio entities, such as universities, but using Amateur Radio spectrum. The *NPRM* primarily addresses satellites launched by the commercial sector, however.

“These types of satellites, which have relatively short duration missions, have been advancing scientific research and are increasingly being used for commercial endeavors such as gathering Earth-observation data,” the FCC pointed out in its *NPRM*.

Until now, the FCC has not defined spacecraft categorized as “small satellites.” An International Telecommunication Union Radiocommunication Sector (ITU-R) Report focused on satellites having a mass of less than 10 kilograms with a typical mission duration as less than 3 years and deployed in low-Earth orbit (LEO), which would include most CubeSats. The FCC *NPRM* aims, in part, to further refine the definition of a small satellite.

The FCC has authorized small satellites as commercial operations under Part 25 of its rules, as experimental operations — including scientific and research missions for purposes of experimentation, product development, and market trials; under Part 5 Experimental FCC rules, and as Amateur Radio satellites under Part 97. In its wide-ranging *NPRM*, the FCC points out that the “increasingly commercial nature of small satellite missions” makes many unsuitable for Part 5 Experimental licensing, but that obtaining a Part 25 commercial authorization “can be challenging for some small satellite applicants because of the costs and timelines involved.”

In any case, FCC authorization is required prior to launch, and ITU Radio Regulations require that no transmitting station may be established or operated by a private person or by any enterprise without a license by or on behalf of the government of the country to which the station in question is subject. This would include spacecraft built in the US but launched in another country.

“Because the type of operations that qualify as Amateur are narrowly defined, an Amateur Satellite authorization will not be appropriate for many small satellite operations,” the FCC *NPRM* notes. “Commission staff may also request a document describing the mission of the satellite, in order to facilitate review and verify eligibility for operations in the Amateur Service,” the *NPRM* continues.

The FCC notes that the International Amateur Radio Union (IARU) “will only coordenate a non-Amateur satellite, if an administration directs in writing that it be operated in an Amateur-Satellite band under an experimental or other non-Amateur license.”

The *NPRM* does not propose any specific Part 97 Amateur/Amateur-Satellite Service rule changes, but some more general proposals could affect future authorizations under the Amateur Service. For example, the FCC is proposing that "all applicants seeking to be licensed under the streamlined small satellite process also certify that their satellites will be no smaller than 10 x 10 x 10 centimeters, to ensure that the satellite will be trackable as a space object," the *NPRM* said. “This size is consistent with the CubeSat specification.” This subject recently arose in connection with the January launch of tiny, so-called SpaceBEEs by Swarm Technologies, which the FCC said it had not authorized.
Comments on the FCC *NPRM* will be invited 45 days following publication in *The Federal Register*. ARRL is planning to file comments.

TRUTHS THAT COME WITH AGE

1.. Sometimes I'll look down at my watch 3 consecutive times and still not know what time it is.
2.. Nothing irks me more than that moment during an argument when you realize you're wrong.
3.. I totally take back all those times I didn't want to nap when I was younger..
4.. There is great need for a sarcasm font.
5.. How the hell are you supposed to fold a fitted sheet?
6.. Was learning cursive really necessary?
7.. Map Quest or Google Maps really need to start their directions on # 5. I'm pretty sure I know how to get out of my neighborhood.
8... Obituaries would be a lot more interesting if they told you how the person died.
9... I can't remember the last time I wasn't at least kind of tired

F.Y.I.

The July Program will be “NTS For Today's Radio Amateur” -- Don / WK2RP

The D.L.A.R.C. meets the “FIRST” Thursday of each month. Membership, friends and interested persons meet at the Bethlehem Township Community Center, 2900 Farmersville Road, Bethlehem, Pa. 18020) at 7:30 PM. Committee reports and announcements of all present and future activities will be presented at that time. Followed by that month's program.

NORTHAMPTON COUNTY ARES, RACES AND DLARC NET

All Radio Amateurs are welcome to participate in the ARES, RACES and DLARC net. This net meets Wednesday at 1900 hours local time, on the W3OK Repeater 51.76, 146.70 and 444.90 (pl 151.4). With an alternate frequency of 147.350 (DCS 315) W3OI Repeater.

QCWA Chapter 17 holds a net Monday evenings at 8:30 PM on 3960 +/- depending on conditions. Other inputs are the 146.85 repeater, (151.4 PL) and Echolink at K2PM-R.

Mid-Atlantic D-Star Net meets each Tuesday at 7:30 PM. The following repeaters Dstar repeaters are available in the Lehigh Valley. W3OK -145.11000MHz -0.600 Port C – W3OI -147.16500MHz +0.600 Port C, – W3OI - 445.02500MHz -5.000 Port B All repeaters on the net are linked through **Reflector 020 port A**, so all stations checking into the net should make sure that they have *their local repeater call sign followed by the letter “G” in the eight position of the RPT2 field***.** Otherwise, you will only be heard locally and not over the Reflector. Dongle users wishing to check into the net should Log On by connecting directly to Reflector 20, port A, rather than through your local repeater in order to conserve local bandwidth.

The OK Corral is an organization publication for the purpose of informing members of the D.L.A.R.C. of educational and training opportunities, club events, relevant news articles and a monthly calendar of daily activities, meetings and dates.

EXECUTIVE COMMITTEE 2017 – 2018

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PHONE NUMBERS FOR THE EXECUTIVE COMMITTEE OF THE DLARC CAN BE FOUND ON THE WEBSITE / MEMBERSHIP LISTING

CLUB MEETINGS

All regular meetings of the D.L.A.R.C. Are held on the first Thursday of each month at 7:30 PM at the Bethlehem Township Community Center
TALK IN ON 146.700 (PL 151.4)

Club Station Telephone Number – 484 291-1527 Email Address – w3ok146700@gmail.com

THE W3OK TRUSTEE --- Barry Vogt / N3NVA

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